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PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improvements in a Candy and Method of Making the same.

I, ROBERT MAURICE PRESTON, Manufacturer, of 3615, Jasper Place, Chicago, State of Illinois, United States of America, a citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to candies of the jelly or "gum drop" type and a method of making such candies.

In the past, various expedients have been used to produce the "jelly" type of candy but such processes have had the disadvantage of containing expensive or inconvenient steps; of requiring expensive materials, and producing a product which would dry out sufficiently to become tough and unpalatable after being stored only a short time. This difficulty made it necessary to keep stocks of such candies moving rapidly in order that they would always be fresh and in a saleable condition.

A common method of preparing jelly candies is to make a thick syrup of cane sugar with a relatively smaller proportion of corn sugar. A thin solution of starch is then slowly added to the hot syrup. This solution of corn sugar, cane sugar and starch, which, of course, should include any flavoring material desired is next poured into starch molds. These starch molds are placed in a "hot room" where a temperature of 130 to 150° F. is maintained. The purpose of this procedure is to cause the candies to set properly. The time required varies considerably but may be as much as fifteen days. This means that it is necessary to have a large number of starch molds or trays beside the expense of maintaining the hot rooms.

The final product of such a process dries out rather quickly and becomes tough and unpalatable if not consumed in a few months.

Another method in common use is to cause the jelly effect by introducing certain fruit pulps into the candy. This produces a jelly effect without the use of starch. Apricots from Southern Europe

[Price 1/-]

are the favorite fruit for use in this manner. The method is unsatisfactory because it produces results which are not at all uniform. One shipment of the fruit may produce a far better grade of candy than the next succeeding one and various portions of the same shipment may vary greatly in their ability to produce good candy. Further, it is necessary when flavoring candies made by such a method to add enough of the flavoring material to cover up the apricot taste as well as to give the candy the distinctive flavor of the material used.

Still another method is to use agar-agar in the manufacture of such candies, but this material is of questionable value in food products.

I have now discovered a process by which candies of this type may be produced by the use of citrus pectin. Candies made by my process possess keeping qualities which are very superior to those produced by the older methods and much less tough than starch candies even when new.

It is, therefore, an object of my invention to provide a jelly candy with qualities superior to those previously made.

It is a further object of my invention to provide a process for producing such candy.

I am aware that it has previously been proposed to make jams or jellies by boiling a solution of a sugar which may be dextrose pectin and acid, dissolving further quantities of sugar in the solution without interrupting the boiling and then pouring and allowing to cool and set to a jelly.

In the production of candies the quality of the finished candy depends largely upon the amount of sugar in the final mix and if either cane or corn sugar is used alone the amount of sugar in the mix will be limited by the solubility of the particular sugar used. If however, two sugars, i.e., corn sugar and cane sugar are employed, the total maximum quantity of sugars is not limited by the individual solubility of either but it is found that a larger total sugar percentage

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can be reached in the finished mix.

According to the present invention I provide a method of making candy by pouring a solution containing sugar and pectin into molds where it congeals, characterized by the steps of preparing such solution by boiling a solution of sugar and pectin until it sheets or strings from a spoon or paddle, adding corn syrup and cane sugar in an amount containing about four times as much sugar as that of the original solution while continuing the boiling till the mix sheets or strings again and then adding a comparatively small quantity of an edible acid.

According to the present invention also I provide a method of making candy by pouring a solution containing sugar and pectin into molds where it congeals, characterized by the steps of preparing such solution by boiling a solution of sugar and pectin, adding a suitable quantity of grated fruit, continuing the boiling until the mix sheets or strings from a spoon or paddle and then adding corn syrup and cane sugar in an amount containing about four times as much sugar as that of the original solution while still continuing the boiling until the mix again sheets or strings.

The sugar in the sugar and pectin solution which is first boiled is preferably corn sugar. I prefer to use a standardized pectin for this purpose. To produce such a pectin, it is first necessary to determine how many pounds of sugar in say a 65% by weight, aqueous solution will be jellied by one pound of the pectin. This may be determined by the usual experimental methods. Then the pectin is diluted with cane sugar or corn sugar until each pound will jell say 50 pounds of sugar in a 65% solution. For example, if the original pectin would jell 100 pounds of sugar in this manner, it should be mixed with its own weight of a suitable sugar or sugars and if it would originally jell 150 pounds of sugar in a similar manner, it should be mixed with twice its weight of sugar. Pectin prepared in this way is known as 50 grade pectin. Of course, the pectin need not be standardized at 50 grade but may, if desired, be standardized at other values such as 40 or 60 grade in which case the amount used in a given recipe should be varied accordingly.

In order to further illustrate my invention, but not by way of limitation, I give a specific example showing a preferred proportion for the ingredients of my products as follows:

130 lbs. Corn Syrup
60 lbs. Cane Sugar

42 lbs. Corn Sugar
7 lbs. 50 grade Pectin
2 oz. 50% acid solution
7½ gal. water

Thoroughly mix the dry corn sugar and pectin together. Add this dry mixture to the water in a kettle which is preferably steam heated. Turn the steam on slowly and stir the mixture until it becomes a clear solution without lumps showing that the sugar and pectin are all dissolved. This may be determined by allowing the solution to drip from a spatula or paddle.

Now turn the steam completely on and bring the batch to a rolling boil. As soon as it is boiling, the stirring may be stopped. The boiling should be continued until the solution sheets or strings from a spoon or paddle which has been dipped into it. This string should be quite heavy and should break short, a test which is familiar to persons skilled in the art of making candy.

The stirring should now be begun again, adding the corn syrup slowly so that the boiling will not stop. When this is done, the cane sugar should be added in the same manner. When the sugar is dissolved the steam should be shut off and the batch tested as explained above to see if it sheets or strings properly; if not, continue cooking until this condition is reached. Now shut off the steam and add any desired coloring or flavoring material. After this, the 50% acid solution is added, the solution stirred until the acid is thoroughly mixed in, and cast immediately in the usual manner. It is important that the solution should not be allowed to cool before casting.

By 50% acid solution, I mean tartaric acid dissolved in its own weight of water. An equivalent amount of any other edible acid may be used. Citric, malic and phosphoric are examples of other acids which will work in my process.

In another embodiment of my invention, grated fruits may be added to produce a characteristic taste and appearance in my product. The following is an example of this form of my invention, in which the following are my preferred proportions:

130 lbs. Corn Syrup
60 lbs. Cane Sugar
42 lbs. Corn Sugar
7 lbs. 50 grade Citrus Pectin
20 gal. Grated Pineapple
7½ gal. water

Thoroughly mix corn sugar and pectin, and dissolve in the water in a steam or otherwise suitably heated kettle. Turn the steam on slowly so that the batch will

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not reach the boiling point until both the sugar and pectin are dissolved, producing a clear solution free from lumps.

Next turn the steam on completely and bring the batch to a rolling boil. At this point add 20 No. 10 (approximately 1 gallon each) cans of water-packed grated pineapple and cook until the mixture sheets or strings well from a spoon or paddle. This sheet should break short and be quite heavy. Leave the steam on and add the corn syrup slowly so as not to interfere with the boil. Next add 60 lbs. of cane sugar in the same manner, shut off the steam and again test the batch for its sheeting qualities. If it does not sheet properly, continue cooking until the desired concentration is reached. Shut off the steam and cast in the usual manner. It is important that the batch be stirred continuously after it has been cooked until the entire amount has been drawn off.

If desired, the above material may be cast in rings similar to the customary ring slices of pineapple or other suitable forms and coated with a glaze coating which may be applied as follows:

Cook five pounds of sugar with two quarts of water to 228 F. Take a paddle and start a small cloud in one spot and draw the cast pineapple pieces, rings, fritters, wedges, etc. through this cloud and place on a wire screen. Allow to stand over night and they will be ready to pack in the morning.

This procedure produces candied pineapple superior to and far cheaper than pineapple rings treated by processes now known since it may be cast in a variety of shapes and is not limited to rings or other shapes which may be conveniently cut from pineapple but may be used in connection with other fruit.

Thus it will be seen that I have provided a process for making candy of the jelly type which provides an uniform produce and saves much time in manufacture since no hot room is required. It produces more of a fruity type of candy than any other jellying element except fruit itself. It is adaptable to the production of any of the usual varieties of candies. For example, my product may be slabbed or cast or handled in any way that other types of jellying elements are handled. It may be coated in various ways such as sugaring, steam sanding, (sugaring and exposing to live steam to partially melt the sugar) or crystallizing (dipping in sugar solution and drying) or coated with chocolate or any other desirable coating. It has excellent keep-

ing qualities and does not get tough a few months after making like a similar product made with starch would. It may be handled with other ingredients such as butterscotch to produce a candy having alternate layers of the different materials. Also, it imparts no color or flavor of its own to interfere with the color or flavor added in making.

The corn syrup used in the foregoing examples has a specific gravity of about 43° Bé. and about 83% total solid matter practically all of which is corn sugar.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A method of making candy by pouring a solution containing sugar and pectin into molds where it congeals, characterized by the steps of preparing such solution by boiling a solution of sugar and pectin until it sheets or strings from a spoon or paddle, adding corn syrup and cane sugar in an amount containing about four times as much sugar as that of the original solution while continuing the boiling till the mix sheets or strings again and then adding a comparatively small quantity of an edible acid.

2. A method of making candy by pouring a solution containing sugar and pectin into molds where it congeals, characterized by the steps of preparing such solution by boiling a solution of sugar and pectin, adding a quantity of grated fruit, continuing the boiling until the mix sheets or strings from a spoon or paddle and then adding corn syrup and cane sugar in an amount containing about four times as much sugar as that of the original solution while still continuing the boiling until the mix again sheets or strings.

3. A method as claimed in claim 1 in which the total quantity of corn sugar employed is not less and preferably greater than the amount of cane sugar.

4. A method of manufacturing candy substantially as described in the foregoing examples.

5. Candy when prepared by a method particularly described and ascertained herein.

Dated this 8th day of February, 1932.

For the Applicant,
FRANK B. DEHN & Co.,
Chartered Patent Agents,
Kingsway House,
103, Kingsway,
London, W.C.2.